

Transport
for NSW

Concrete washout guideline

June 2023



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Acknowledgement of Country

Transport for NSW acknowledges the traditional custodians of the land on which we work and live.

We pay our respects to Elders past and present and celebrate the diversity of Aboriginal people and their ongoing cultures and connections to the lands and waters of NSW.

Many of the transport routes we use today – from rail lines, to roads, to water crossings – follow the traditional Songlines, trade routes and ceremonial paths in Country that our nation's First Peoples followed for tens of thousands of years.

Transport for NSW is committed to honouring Aboriginal peoples' cultural and spiritual connections to the land, waters and seas and their rich contribution to society.



Document control

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Versions

Version	Date	Amendment notes
1.0	Jul 2014	First issue
2.0	Apr 2015	Updated to be published on Transport for NSW's website
3.0	Apr 2016	Updated Section 4 of the document to reflect changes in TSR
3.1	Jan 2019	Rebranded to Infrastructure and Place (IP)
4.0	Jun 2019	Minor updates Definition of pH updated; DMS document numbers updated.
4.1	Aug 2019	DMS update
5.0	June 2023	Updated and rebranded

Related policy and supporting information

- [Transport Environment and Sustainability Policy](#)
- [Environment & Sustainability Management Framework](#)
- [EMF-EM-PR-0001 Environmental Incident Procedure](#)
- DMS-SD-024 Water discharge and reuse guideline
- EMF-EM-GD-0148 Guide to Environmental Control Map
- Transport for NSW Standard Requirements (Works Contract) DMS-FT-425

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1. Purpose

The purpose of this document is to provide guidance on how to manage concrete washout waste material. The disposal of waste concrete and slurry poses a potential risk of environmental harm if not managed appropriately. Establishing and maintaining a designated wash-down area allows sites to properly wash down equipment whilst minimising the risk of pollution to land or waters.

Contractors are accountable for following this document, where this guideline forms a part of their contract.

2. Scope

This guideline includes references to some of the relevant legislative and regulatory requirements but is not intended to replace them. It is not intended to replace any requirements identified as part of the environmental impact assessment process.

3. Legislative requirements

The *Protection of the Environment Operations Act 1997* (POEO Act) is the key piece of environmental protection legislation in NSW, administered by the NSW Environment Protection Authority (EPA).

Offences under the POEO Act are classified into three tiers, with Tier 1 offences being the most serious, attracting penalties up to \$5 million and 7 years imprisonment for wilful or negligent harm to the environment.

Under the POEO Act, any unlicensed pollution of land or waters is a Tier 2 offence attracting penalties up to \$1 million for a corporation and \$250,000 for individuals.

s. 120 of the POEO Act: Prohibition of pollution of waters

(1) *A person who pollutes any waters is guilty of an offence.*

(2) *In this section – **pollute waters** includes cause or permit any waters to be polluted.*

s. 142A of the POEO Act: Pollution of land

(1) *A person who pollutes land is guilty of an offence.*

(2) *In this section – **pollute land** includes cause or permit any land to be polluted*

Note: for the definition of pollution refer to the *POEO Act*.

4. Managing concrete washout

Effective concrete washout areas are used to contain concrete slurry and liquids. This occurs mainly when the chutes of concrete mixers and hoppers of concrete pumps are rinsed out after a site delivery. Washout facilities are used to consolidate solids for easier disposal or reuse and to prevent runoff of contaminated liquids.

Concrete wash water is alkaline (pH around 12) and contains high levels of chromium, with the potential to pollute land and leach into the ground and contaminate groundwater. Concrete washout material can also increase the pH of surrounding waters and the potential to harm aquatic life and cause water pollution including storm water. Solids that are improperly disposed of can clog stormwater pipes and cause flooding.

Installing concrete washout facilities not only assists in preventing pollution but is also a matter of good housekeeping on construction sites.

4.1 Planning and design

The details of the concrete washout area should be included on the Environmental Control Map (ECM) and/or within the Construction Environmental Management Plan (CEMP) (or its sub plans).

The ECM and/or CEMP should identify:

- location of the concrete washout facility
- how the concrete wastes are going to be stored
- method of concrete waste collection from these storage points
- where the wastes will be taken and/or how they will be treated and disposed
- estimated size/volume of the concrete washout required to support site activities.

The design aim of the concrete washout area is to securely capture and store concrete wastewater and solids in an impervious bunded area. This can be achieved via a number of methods (refer examples in Appendix 1).

Site personnel, particularly those responsible for concrete delivery and pumping, should be made aware (via site induction, toolbox talks, pre-starts etc.) that a wash-down area is available on site, and when and how it is to be used.

For guidance on the removal and disposal of water from the washout and treatment area refer to the DMS-SD-024 *Water discharge and reuse guideline*.

4.2 Location and management of washout areas

The following management measures should be considered to minimise the potential impacts of concrete washout areas on the environment:

- Washout areas should be located away and/or downslope from drainage lines, stormwater drains and water bodies.
- Concrete washout areas should be conveniently located for washing out equipment and clearly signposted.
- All wash down water is to be contained within the designated impervious bund.
- Concrete washout areas are generally not designed for the collection of excess concrete. Excess concrete waste should be returned to the local batching plant for treatment and re-use or placed in a site receptacle designated for concrete and masonry and allowed to set.
- To minimise the amount of washout water generated, excess concrete should be scraped off the equipment before it is washed and placed in a site receptacle designated for concrete and masonry.
- A high-pressure, low-volume water spray nozzle reduces water use.
- Water discharge can only be undertaken in accordance with DMS-SD-024 *Water discharge and reuse guideline*.

4.3 Monitoring

All concrete washout areas should be monitored and maintained to ensure that they are functioning correctly and have adequate storage capacity. Monitoring should be undertaken as a minimum:

- regularly during dry weather
- prior to forecast rainfall events
- during rainfall events to ensure overtopping does not occur
- as soon as practical following a rainfall event.

Set concrete should be removed to restore capacity to the washout area, prevent overflows and be reused (e.g. crushed aggregate) on-site where possible, then collection and further recycling / disposal off-site by a licensed waste contractor.

4.4 Reporting

An environmental incident occurs if:

- concrete is washed out in an area other than the designated concrete washout area
- mismanagement of the concrete washout leads to a release of concrete washout to land or waters.

If an environmental incident occurs, the process documented in the [EMF-EM-PR-0001 Environmental Incident Procedure](#) should be followed.

5. Related documents and references

- *Managing Urban Stormwater: Soils and Construction* Volume 1, Landcom 2004 ('Blue Book').
- Minnesota Department of Transportation, *Best Management Practices for Concrete Washout*, 2009, v5

6. Definitions

All terminology in this document is taken to mean the generally accepted or dictionary definition with the exception of the following terms which have a specifically defined meaning:

Term	Definition
Blue Book	<i>Managing Urban Stormwater: Soils and Construction 2004</i> , Landcom
CEMP	Construction Environmental Management Plan
ECM	Environment Control Map
EPA	New South Wales Environment Protection Authority
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
pH	Potential of hydrogen. pH is a logarithmic scale used to specify the acidity or basicity of an aqueous solution
Transport	Transport for NSW
TSR	Transport for NSW Standard Requirement

Appendix A: Examples of concrete washouts

Smaller site/volume options

a) Portable tray



Photo: Transport for NSW

Portable trays are capable of holding liquid and solid concrete washout materials and can be easily moved around the site as required. This option has sustainability benefits by reducing the generation of additional waste such as plastic.

Larger site/volume options

a) Sealed skip container



Photo: Transport for NSW

A skip washout system is capable of holding liquid and solid concrete washout materials until final treatment and disposal. Prevent commingling of other solid wastes with concrete washout materials.

b) Lined trap



Photo: Transport for NSW

A lined trap system is excavated in an area with stormwater overflow protection consisting of impervious plastic sheeting. The goal is to retain the liquids.

c) **Berm trap**

A berm trap system may consist of raised walls constructed from wood, straw bales, compost filter logs, sand bags, soil, lined concrete barriers, or any suitable strength materials to contain concrete washout liquids and solids until evaporation, curing, or extraction and final removal.



Photo: Transport for NSW

Concrete truck/pumper options

a) **Chute washout:**



Photo: Minnesota Dept of Transportation, *Best Management Practices for Concrete Washout*, 2009, version 5

If there is very little concrete being used on site and the only washout required is the concrete chute then devices capable of containing all concrete liquids and solids can be used.

b) Plastic

As a secondary containment method to avoid land and or water pollution, a plastic drop sheet with weighed down edges can be used.

This method is especially useful at connectors of the concrete pumper or under the chute of the concrete truck.

Note this is not a washout, but can be used in conjunction with other washout methods



Photo: Transport for NSW

c) Rinse bucket

A rinse bucket separates concrete aggregate from washout water and needs to be cleared of waste each day.



Photo: Minnesota Dept of Transportation, *Best Management Practices for Concrete Washout*, 2009, version 5

d) Concrete washout bags



Photos: Transport for NSW

Concrete washout bags that are specifically manufactured to contain all liquid are to be used.



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